GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: August 9, 2003, 16:11:13 ; Search time 53.7429 Seconds
(without alignments)
56.115 Million cell updates/sec

Title: US-09-905-691-3
Perfect score: 19
Sequence: 1 AEARARRAAARAARRAARA 19

Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 1107863 seqs, 158726573 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

Database : A_Geneseq_19Jun03:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	19	100.0	19	19	AAW41503	Heparin binding pe
2	19	100.0	19	21	AAY87836	Heparin binding pe
3	19	100.0	19	23	AAB71429	Peptide Bis-Arg He
4	17	89.5	21	19	AAW41506	Heparin binding pe
5	17	89.5	21	21	AAY87839	Heparin binding pe
6	16	84.2	16	19	AAW41504	Heparin binding pe
7	16	84.2	16	21	AAY87837	Heparin binding pe
8	16	84.2	16	23	AAB71426	Peptide Arg Helix
9	16	84.2	21	23	AAB71431	Peptide Tris-Arg H
10	12	63.2	16	19	AAW41505	Heparin binding pe
11	12	63.2	16	21	AAY87838	Heparin binding pe
12	10	52.6	11	20	AAY25078	Transduction prote
13	10	52.6	11	21	AAB29419	Synthetic transduc
14	10	52.6	11	21	AAY93547	Amino acid sequenc
15	10	52.6	11	22	AAE05278	Human immunodefici
16	10	52.6	11	23	AAU76085	Peptide transport
17	10	52.6	11	24	ABP56078	Protein transducti
18	10	52.6	19	21	AAY87840	Heparin binding pe
19	10	52.6	19	23	AAB71428	Peptide Bis-Arg He
20	9	47.4	11	20	AAY25077	Transduction prote
21	9	47.4	11	21	AAB29418	Synthetic transduc
22	9	47.4	11	21	AAY93546	Amino acid sequenc
23	9	47.4	11	22	AAE05277	Human immunodefici
24	9	47.4	11	23	ABG78988	Cell penetrating p
25	9	47.4	11	23	AAU76084	Peptide transport
26	9	47.4	11	23	AAM48625	Anti-inflammatory
27	9	47.4	11	23	AAM48626	Anti-inflammatory
28	9	47.4	11	24	ABP56077	Protein transducti
29	9	47.4	17	23	AAM48643	Anti-inflammatory
30	9	47.4	17	23	AAM48644	Anti-inflammatory
31	9	47.4	22	23	AAM48636	Anti-inflammatory
32	9	47.4	22	23	AAM48637	Anti-inflammatory
33	9	47.4	190	24	ABP56096	PTD5-VP3 fusion pr
34	9	47.4	407	19	AAW48381	Homo sapiens don-1
35	9	47.4	407	24	ABG71638	Human membrane-bou
36	9	47.4	469	19	AAW48382	Homo sapiens don-1
37	9	47.4	469	24	ABG71639	Human second splic
38	9	47.4	605	19	AAW48379	Mus musculus don-1
39	9	47.4	605	24	ABG71636	Murine membrane-bo
40	9	47.4	647	19	AAW48383	Homo sapiens don-1
41	9	47.4	647	24	ABG71644	Human third splice
42	9	47.4	754	18	AAW27536	Rat cerebellum der
43	9	47.4	860	19	AAW63700	Receptor type tyro
44	8	42.1	11	24	AAE33884	HIV-Tat secretion
45	8	42.1	13	23	AAE23211	HIV-1 tat peptide

ALIGNMENTS

RESULT 1
AAW41503
ID AAW41503 standard; peptide; 19 AA.
XX
AC AAW41503;
XX
DT 05-JUN-1998 (first entry)
XX
DE Heparin binding peptide.
XX
KW Heparin binding peptide; anticoagulant antagonist; protamine;
KW insulin formulation; diabetes.
XX
OS Synthetic.
XX
PN WO9747312-A1.
XX
PD 18-DEC-1997.
XX
PF 03-JUN-1997; 97WO-US09037.
XX
PR 11-JUN-1996; 96US-0660592.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Sobel M;
XX
DR WPI; 1998-052023/05.
XX
PT New peptide compounds - are useful as heparin binding molecules
PT which do not cause haemodynamic side effects
XX

PS Claim 1; Page 43; 62pp; English.
XX
CC The present heparin binding peptide can be used to antagonise or
CC neutralise the anticoagulant activity of heparin. It can also be
CC used to replace protamine in insulin formulations for
CC administration to diabetics.
CC The peptide can safely and specifically neutralise heparin's
CC anticoagulant properties, without causing deleterious haemodynamic
CC side-effects or exacerbating the proliferative vascular response to
CC injury.
XX
SQ Sequence 19 AA;

Query Match 100.0%; Score 19; DB 19; Length 19;
Best Local Similarity 100.0%; Pred. No. 4.6e-10;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AEARARRAAARAARRAARA 19
||||||||||||||||||||
Db 1 AEARARRAAARAARRAARA 19

RESULT 2
AAY87836
ID AAY87836 standard; peptide; 19 AA.
XX
AC AAY87836;
XX
DT 01-SEP-2000 (first entry)
XX
DE Heparin binding peptide Arg helix #2.
XX
KW Heparin binding peptide; antagonist; cardiovascular; coagulant;
KW bleeding wound; vascular anastomoses; leaking prosthetic vascular graft;
KW protamine substitute; treatment.
XX
OS Synthetic.
XX
PN EP999219-A2.
XX
PD 10-MAY-2000.
XX
PF 01-OCT-1999; 99EP-0119514.
XX
PR 06-OCT-1998; 98US-0166930.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Sobel M;
XX
DR WPI; 2000-306006/27.
XX
PT New heparin binding molecules, useful for reducing heparin content in a
PT mammal by reducing the anticoagulant effects of heparin -
XX
PS Example 1; Page 8; 39pp; English.
XX
CC This invention describes novel heparin binding molecules (I). The
CC molecules (I) are useful as heparin antagonist drugs for cardiovascular
CC application and specifically neutralize heparin's conventional
CC anticoagulant properties. (I) are also useful for counteracting actions
CC of heparin locally e.g. in bleeding wounds, vascular anastomoses or
CC leaking prosthetic vascular grafts. (I) is also useful combined in a
CC pharmaceutical composition with insulin, as a substitute for protamine
CC for use in treating diabetics. The heparin binding molecules (I)
CC specifically neutralize heparin's conventional anticoagulant properties
CC without causing deleterious hemodynamic side-effects or exacerbation of
CC the proliferative vascular response to injury. (I) are short-duration,
CC intravenous drugs to be used in elective or emergency situations which
CC can safely and specifically neutralize heparin's proliferative response
CC to injury. This sequence represents a heparin-binding peptide described
CC in the method of the invention.
XX
SQ Sequence 19 AA;

Query Match 100.0%; Score 19; DB 21; Length 19;
Best Local Similarity 100.0%; Pred. No. 4.6e-10;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AEARARRAAARAARRAARA 19
||||||||||||||||||||
Db 1 AEARARRAAARAARRAARA 19

RESULT 3
AAB71429
ID AAB71429 standard; peptide; 19 AA.
XX
AC AAB71429;
XX
DT 27-NOV-2002 (first entry)
XX
DE Peptide Bis-Arg Helix #2 fragment #2.
XX
KW Sepsis; branched chain peptide; antibacterial; immunosuppressive;
KW endotoxin; helix peptide.
XX
OS Synthetic.
XX
FH Key . Location/Qualifiers
FT Modified-site 1
FT /note= "Ala is modified by unidentified R1 group"
XX
PN EP1232754-A2.
XX
PD 21-AUG-2002.
XX
PF 14-FEB-2002; 2002EP-0251027.
XX
PR 14-FEB-2001; 2001US-268410P.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Wolz RL, Wolz G;
XX
DR WPI; 2002-659478/71.
XX
PT Use of cationic helix peptides for treatment of sepsis and for the
PT detection and removal of endotoxins -
XX
PS Disclosure; Fig 1A; 18pp; English.
XX
CC This invention describes a novel use of antibacterial and
CC immunosuppressive peptides designated Arg Helix 2, Bis Arg Helix 2,
CC Tetra-Arg Helix 2 or Tris-Arg Helix 3 for the manufacture of a medicament
CC for the treatment of sepsis and the detection and removal of endotoxins.
CC The peptides of the invention are used in a method for detecting
CC endotoxin in a sample comprising contacting the sample with a labelled
CC helix peptide and then detecting the presence of any labelled molecule
CC bound to endotoxin. The peptides can also be used in a method for
CC removing endotoxin in a sample which comprises exposing the sample to a
CC helix peptide, bound to a solid support, then collecting the sample. The
CC endotoxin removal may be in vivo, or the peptides may be used to form an
CC affinity trap for endotoxins in e.g. dialysis-type treatments, or for
CC removal of endotoxins from plasma fractionation products. They are also
CC used as model frameworks for endotoxin binding from which new analogues
CC may be designed. This sequence represents the peptide Arg Helix #2 which
CC is used in the construction of Bis-Arg Helix #2, a branched chain peptide
CC described in the method of the invention.
XX
SQ Sequence 19 AA;

Query Match 100.0%; Score 19; DB 23; Length 19;
Best Local Similarity 100.0%; Pred. No. 4.6e-10;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 AEARARRAAARAARRAARA 19
              ||||||||||||||||||
Db          1 AEARARRAAARAARRAARA 19


RESULT 4
AAW41506
ID   AAW41506 standard; peptide; 21 AA.
XX
AC   AAW41506;
XX
DT   05-JUN-1998  (first entry)
XX
DE   Heparin binding peptide.
XX
KW   Heparin binding peptide; anticoagulant antagonist; protamine;
KW   insulin formulation; diabetes.
XX
OS   Synthetic.
XX
PN   WO9747312-A1.
XX
PD   18-DEC-1997.
XX
PF   03-JUN-1997;   97WO-US09037.
XX
PR   11-JUN-1996;   96US-0660592.
XX
PA   (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI   Harris RB,  Sobel M;
XX
DR   WPI; 1998-052023/05.
XX
PT   New peptide compounds - are useful as heparin binding molecules
PT   which do not cause haemodynamic side effects
XX
PS   Example 5; Page 31; 62pp; English.
XX
CC   The present heparin binding peptide can be used to antagonise or
CC   neutralise the anticoagulant activity of heparin. It can also be
CC   used to replace protamine in insulin formulations for
CC   administration to diabetics.
CC   The peptide can safely and specifically neutralise heparin's
CC   anticoagulant properties, without causing deleterious haemodynamic
CC   side-effects or exacerbating the proliferative vascular response to
CC   injury.
XX
SQ   Sequence   21 AA;

  Query Match            89.5%;  Score 17;  DB 19;  Length 21;
  Best Local Similarity  100.0%;  Pred. No. 2.5e-08;
  Matches   17;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 AEARARRAAARAARRAA 17
              |||||||||||||||||
Db          1 AEARARRAAARAARRAA 17


RESULT 5
AAY87839
ID   AAY87839 standard; peptide; 21 AA.
XX
AC   AAY87839;
XX
DT   01-SEP-2000  (first entry)
XX
DE   Heparin binding peptide Arg helix #5.
XX
KW   Heparin binding peptide; antagonist; cardiovascular; coagulant;
KW   bleeding wound; vascular anastomoses; leaking prosthetic vascular graft;
KW   protamine substitute; treatment.
XX
OS   Synthetic.
XX
PN   EP999219-A2.
XX
PD   10-MAY-2000.
XX
PF   01-OCT-1999;   99EP-0119514.
XX
PR   06-OCT-1998;   98US-0166930.
XX
PA   (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI   Harris RB,  Sobel M;
XX
DR   WPI; 2000-306006/27.
XX
PT   New heparin binding molecules, useful for reducing heparin content in a
PT   mammal by reducing the anticoagulant effects of heparin -
XX
PS   Example 5; Page 14; 39pp; English.
XX
CC   This invention describes novel heparin binding molecules (I). The
CC   molecules (I) are useful as heparin antagonist drugs for cardiovascular
CC   application and specifically neutralize heparin's conventional
CC   anticoagulant properties. (I) are also useful for counteracting actions
CC   of heparin locally e.g. in bleeding wounds, vascular anastomoses or
CC   leaking prosthetic vascular grafts. (I) is also useful combined in a
CC   pharmaceutical composition with insulin, as a substitute for protamine
CC   for use in treating diabetics. The heparin binding molecules (I)
CC   specifically neutralize heparin's conventional anticoagulant properties
CC   without causing deleterious hemodynamic side-effects or exacerbation of
CC   the proliferative vascular response to injury. (I) are short-duration,
CC   intravenous drugs to be used in elective or emergency situations which
CC   can safely and specifically neutralize heparin's proliferative response
CC   to injury. This sequence represents a heparin-binding peptide described
CC   in the method of the invention.
XX
SQ   Sequence   21 AA;

  Query Match            89.5%;  Score 17;  DB 21;  Length 21;
  Best Local Similarity  100.0%;  Pred. No. 2.5e-08;
  Matches   17;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 AEARARRAAARAARRAA 17
              |||||||||||||||||
Db          1 AEARARRAAARAARRAA 17


RESULT 6
AAW41504
ID   AAW41504 standard; peptide; 16 AA.
XX
AC   AAW41504;
XX
DT   05-JUN-1998  (first entry)
XX
DE   Heparin binding peptide.
XX
KW   Heparin binding peptide; anticoagulant antagonist; protamine;
KW   insulin formulation; diabetes.
XX
OS   Synthetic.
XX
PN   WO9747312-A1.
XX
PD   18-DEC-1997.
XX
PF   03-JUN-1997;   97WO-US09037.
XX
PR   11-JUN-1996;   96US-0660592.
XX
PA   (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
```

PI Harris RB, Sobel M;
XX
DR WPI; 1998-052023/05.
XX
PT New peptide compounds - are useful as heparin binding molecules
PT which do not cause haemodynamic side effects
XX
PS Claim 4; Page 43; 62pp; English.
XX
CC The present heparin binding peptide can be used to antagonise or
CC neutralise the anticoagulant activity of heparin. It can also be
CC used to replace protamine in insulin formulations for
CC administration to diabetics.
CC The peptide can safely and specifically neutralise heparin's
CC anticoagulant properties, without causing deleterious haemodynamic
CC side-effects or exacerbating the proliferative vascular response to
CC injury.
XX
SQ Sequence 16 AA;

Query Match 84.2%; Score 16; DB 19; Length 16;
Best Local Similarity 100.0%; Pred. No. 1.5e-07;
Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AEARARRAAARAARRA 16
||||||||||||||||
Db 1 AEARARRAAARAARRA 16

RESULT 7
AAY87837
ID AAY87837 standard; peptide; 16 AA.
XX
AC AAY87837;
XX
DT 01-SEP-2000 (first entry)
XX
DE Heparin binding peptide Arg helix #3.
XX
KW Heparin binding peptide; antagonist; cardiovascular; coagulant;
KW bleeding wound; vascular anastomoses; leaking prosthetic vascular graft;
KW protamine substitute; treatment.
XX
OS Synthetic.
XX
PN EP999219-A2.
XX
PD 10-MAY-2000.
XX
PF 01-OCT-1999; 99EP-0119514.
XX
PR 06-OCT-1998; 98US-0166930.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Sobel M;
XX
DR WPI; 2000-306006/27.
XX
PT New heparin binding molecules, useful for reducing heparin content in a
PT mammal by reducing the anticoagulant effects of heparin -
XX
PS Example 1; Page 9; 39pp; English.
XX
CC This invention describes novel heparin binding molecules (I). The
CC molecules (I) are useful as heparin antagonist drugs for cardiovascular
CC application and specifically neutralize heparin's conventional
CC anticoagulant properties. (I) are also useful for counteracting actions
CC of heparin locally e.g. in bleeding wounds, vascular anastomoses or
CC leaking prosthetic vascular grafts. (I) is also useful combined in a
CC pharmaceutical composition with insulin, as a substitute for protamine
CC for use in treating diabetics. The heparin binding molecules (I)
CC specifically neutralize heparin's conventional anticoagulant properties
CC without causing deleterious hemodynamic side-effects or exacerbation of
CC the proliferative vascular response to injury. (I) are short-duration,
CC intravenous drugs to be used in elective or emergency situations which
CC can safely and specifically neutralize heparin's proliferative response
CC to injury. This sequence represents a heparin-binding peptide described
CC in the method of the invention.
XX
SQ Sequence 16 AA;

Query Match 84.2%; Score 16; DB 21; Length 16;
Best Local Similarity 100.0%; Pred. No. 1.5e-07;
Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 AEARARRAAARAARRA 16
||||||||||||||||
Db 1 AEARARRAAARAARRA 16

RESULT 8
AAB71426
ID AAB71426 standard; peptide; 16 AA.
XX
AC AAB71426;
XX
DT 27-NOV-2002 (first entry)
XX
DE Peptide Arg Helix #3.
XX
KW Sepsis; branched chain peptide; antibacterial; immunosuppressive;
KW endotoxin; helix peptide.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "N(acetyl)-Ala"
FT Modified-site 16
FT /note= "Ala-C(O). This residue can optionally have
FT the side chain -C(O)-NepsilonH-(CH2)4-Tris-Arg
FT helix #3 where Tris-Arg helix #3 is represented
FT in AAB71431"
XX
PN EP1232754-A2.
XX
PD 21-AUG-2002.
XX
PF 14-FEB-2002; 2002EP-0251027.
XX
PR 14-FEB-2001; 2001US-268410P.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Wolz RL, Wolz G;
XX
DR WPI; 2002-659478/71.
XX
PT Use of cationic helix peptides for treatment of sepsis and for the
PT detection and removal of endotoxins -
XX
PS Disclosure; Page 4; 18pp; English.
XX
CC This invention describes a novel use of antibacterial and
CC immunosuppressive peptides designated Arg Helix 2, Bis Arg Helix 2,
CC Tetra-Arg Helix 2 or Tris-Arg Helix 3 for the manufacture of a medicament
CC for the treatment of sepsis and the detection and removal of endotoxins.
CC The peptides of the invention are used in a method for detecting
CC endotoxin in a sample comprising contacting the sample with a labelled
CC helix peptide and then detecting the presence of any labelled molecule
CC bound to endotoxin. The peptides can also be used in a method for
CC removing endotoxin in a sample which comprises exposing the sample to a
CC helix peptide, bound to a solid support, then collecting the sample. The
CC endotoxin removal may be in vivo, or the peptides may be used to form an
CC affinity trap for endotoxins in e.g. dialysis-type treatments, or for

```
CC   removal of endotoxins from plasma fractionation products. They are also
CC   used as model frameworks for endotoxin binding from which new analogues
CC   may be designed. This sequence represents the peptide Arg Helix #3 which
CC   is used in the construction of the branched chain peptides described in
CC   the method of the invention.
XX
SQ   Sequence   16 AA;

  Query Match             84.2%;  Score 16;  DB 23;  Length 16;
  Best Local Similarity   100.0%;  Pred. No. 1.5e-07;
  Matches   16;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 AEARARRAAARAARRA 16
              ||||||||||||||||
Db          1 AEARARRAAARAARRA 16


RESULT 9
AAB71431
ID   AAB71431 standard; peptide; 21 AA.
XX
AC   AAB71431;
XX
DT   27-NOV-2002  (first entry)
XX
DE   Peptide Tris-Arg Helix #3 constrained.
XX
KW   Sepsis; branched chain peptide; antibacterial; immunosuppressive;
KW   endotoxin; helix peptide.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   1
FT                   /note= "Acylated residue"
FT   Modified-site   16..17
FT                   /note= "ArgHel#3 peptide fragment joined to the TR3
FT                          CONST peptide fragment represented in AAB71427
FT                          via -C(O)-NalphaH- bond"
FT   Modified-site   17
FT                   /note= "Lys-(CH2)4-NepsilonH3+"
FT   Modified-site   18
FT                   /note= "Lys-(CH2)4-NepsilonH-ArgHel#3, where ArgHel#3 is
FT                          represented in AAB71426"
FT   Modified-site   20
FT                   /label= OTHER
FT                   /note= "OTHER= 2,3-Diaminopropionic acid (DAPA), this
FT                          residue has a -(CH2)3-NepsilonH-ArgHel#3 side
FT                          chain, where ArgHel#3 is represented in AAB71432"
FT   Modified-site   21
FT                   /note= "Glu-(CH2)4-O-C(O). This residue also has a
FT                          -C(O)-NH2 side chain"
XX
PN   EP1232754-A2.
XX
PD   21-AUG-2002.
XX
PF   14-FEB-2002; 2002EP-0251027.
XX
PR   14-FEB-2001; 2001US-268410P.
XX
PA   (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI   Harris RB,  Wolz RL,  Wolz G;
XX
DR   WPI; 2002-659478/71.
XX
PT   Use of cationic helix peptides for treatment of sepsis and for the
PT   detection and removal of endotoxins  -
XX
PS   Disclosure; Fig 2; 18pp; English.
XX
CC   This invention describes a novel use of antibacterial and
CC   immunosuppressive peptides designated Arg Helix 2, Bis Arg Helix 2,
CC   Tetra-Arg Helix 2 or Tris-Arg Helix 3 for the manufacture of a medicament
CC   for the treatment of sepsis and the detection and removal of endotoxins.
CC   The peptides of the invention are used in a method for detecting
CC   endotoxin in a sample comprising contacting the sample with a labelled
CC   helix peptide and then detecting the presence of any labelled molecule
CC   bound to endotoxin. The peptides can also be used in a method for
CC   removing endotoxin in a sample which comprises exposing the sample to a
CC   helix peptide, bound to a solid support, then collecting the sample. The
CC   endotoxin removal may be in vivo, or the peptides may be used to form an
CC   affinity trap for endotoxins in e.g. dialysis-type treatments, or for
CC   removal of endotoxins from plasma fractionation products. They are also
CC   used as model frameworks for endotoxin binding from which new analogues
CC   may be designed. This sequence represents the peptide Tris Arg-Helix #3
CC   constrained which is used in the construction of the branched chain
CC   peptides described in the method of the invention.
XX
SQ   Sequence   21 AA;

  Query Match             84.2%;  Score 16;  DB 23;  Length 21;
  Best Local Similarity   100.0%;  Pred. No. 1.8e-07;
  Matches   16;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 AEARARRAAARAARRA 16
              ||||||||||||||||
Db          1 AEARARRAAARAARRA 16


RESULT 10
AAW41505
ID   AAW41505 standard; peptide; 16 AA.
XX
AC   AAW41505;
XX
DT   05-JUN-1998  (first entry)
XX
DE   Heparin binding peptide.
XX
KW   Heparin binding peptide; anticoagulant antagonist; protamine;
KW   insulin formulation; diabetes.
XX
OS   Synthetic.
XX
PN   WO9747312-A1.
XX
PD   18-DEC-1997.
XX
PF   03-JUN-1997;   97WO-US09037.
XX
PR   11-JUN-1996;   96US-0660592.
XX
PA   (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI   Harris RB,  Sobel M;
XX
DR   WPI; 1998-052023/05.
XX
PT   New peptide compounds - are useful as heparin binding molecules
PT   which do not cause haemodynamic side effects
XX
PS   Claim 7; Page 43; 62pp; English.
XX
CC   The present heparin binding peptide can be used to antagonise or
CC   neutralise the anticoagulant activity of heparin. It can also be
CC   used to replace protamine in insulin formulations for
CC   administration to diabetics.
CC   The peptide can safely and specifically neutralise heparin's
CC   anticoagulant properties, without causing deleterious haemodynamic
CC   side-effects or exacerbating the proliferative vascular response to
CC   injury.
XX
SQ   Sequence   16 AA;
```

Query Match 63.2%; Score 12; DB 19; Length 16;
Best Local Similarity 100.0%; Pred. No. 0.0004;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          5 ARRAAARAARRA 16
              ||||||||||||
Db          5 ARRAAARAARRA 16
```

RESULT 11
AAY87838
ID AAY87838 standard; peptide; 16 AA.
XX
AC AAY87838;
XX
DT 01-SEP-2000 (first entry)
XX
DE Heparin binding peptide Arg helix #4.
XX
KW Heparin binding peptide; antagonist; cardiovascular; coagulant;
KW bleeding wound; vascular anastomoses; leaking prosthetic vascular graft;
KW protamine substitute; treatment.
XX
OS Synthetic.
XX
PN EP999219-A2.
XX
PD 10-MAY-2000.
XX
PF 01-OCT-1999; 99EP-0119514.
XX
PR 06-OCT-1998; 98US-0166930.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Sobel M;
XX
DR WPI; 2000-306006/27.
XX
PT New heparin binding molecules, useful for reducing heparin content in a
PT mammal by reducing the anticoagulant effects of heparin -
XX
PS Example 1; Page 9; 39pp; English.
XX
CC This invention describes novel heparin binding molecules (I). The
CC molecules (I) are useful as heparin antagonist drugs for cardiovascular
CC application and specifically neutralize heparin's conventional
CC anticoagulant properties. (I) are also useful for counteracting actions
CC of heparin locally e.g. in bleeding wounds, vascular anastomoses or
CC leaking prosthetic vascular grafts. (I) is also useful combined in a
CC pharmaceutical composition with insulin, as a substitute for protamine
CC for use in treating diabetics. The heparin binding molecules (I)
CC specifically neutralize heparin's conventional anticoagulant properties
CC without causing deleterious hemodynamic side-effects or exacerbation of
CC the proliferative vascular response to injury. (I) are short-duration,
CC intravenous drugs to be used in elective or emergency situations which
CC can safely and specifically neutralize heparin's proliferative response
CC to injury. This sequence represents a heparin-binding peptide described
CC in the method of the invention.
XX
SQ Sequence 16 AA;

Query Match 63.2%; Score 12; DB 21; Length 16;
Best Local Similarity 100.0%; Pred. No. 0.0004;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          5 ARRAAARAARRA 16
              ||||||||||||
Db          5 ARRAAARAARRA 16
```

RESULT 12
AAY25078
ID AAY25078 standard; peptide; 11 AA.
XX
AC AAY25078;
XX
DT 24-AUG-1999 (first entry)
XX
DE Transduction protein peptide motif 3.
XX
KW Anti-pathogen; fusion protein; protein transduction domain; PTD; AZT;
KW cytotoxic domain; suppressor; infection; medicament; ddI; ddC; d4T; 3TC;
KW FTC; DAPD; 1592U89; CS92; acyclovir; ganciclovir; peniclovir; interferon;
KW apoptosis; virus; HIV; cytomegalovirus; CMV; herpes simplex virus; HSV-1;
KW hepatitis virus; Kaposi's sarcoma-associated herpes virus; KSHV;
KW herpes virus; yellow fever virus; flavivirus; rhinovirus; plasmodial;
KW transduction efficiency; cytotoxin.
XX
OS Unidentified.
XX
PN WO9929721-A1.
XX
PD 17-JUN-1999.
XX
PF 10-DEC-1998; 98WO-US26358.
XX
PR 20-APR-1998; 98US-0082402.
PR 10-DEC-1997; 97US-0069012.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Dowdy SF;
XX
DR WPI; 1999-394958/33.
XX
PT New anti-pathogen systems, particularly for virus and plasmodium
PT infections
XX
PS Claim 69; Page 37; 123pp; English.
XX
CC This invention describes a novel anti-pathogen system (APS) comprising a
CC fusion protein constructed from a covalently linked protein transduction
CC domain (PTD) and a cytotoxic domain. The APS can be used for suppressing
CC a pathogen infection in a mammal. The method may further comprise
CC administering a medicament e.g. AZT, ddI, ddC, d4T, 3TC, FTC, DAPD,
CC 1592U89, CS92, acyclovir, ganciclovir, peniclovir or an interferon. The
CC APS can also be administered to a mammal in the presence of a pathogen to
CC induce apoptosis in a predetermined population of cells. The products can
CC be used for treating mammals suffering from or susceptible to a viral
CC infection or a disease associated with a virus, e.g. HIV, cytomegalovirus
CC (CMV), herpes simplex virus, e.g. type 1 (HSV-1) hepatitis virus, type C
CC (HCV), Kaposi's sarcoma-associated herpes virus (KSHV or human herpes
CC virus 8), yellow fever virus, flavivirus or rhinovirus, or suffering from
CC or susceptible to plasmodial infection or a disease associated with a
CC plasmodial infection, e.g. P. falciparum, P. vivax, P. ovale, or
CC P. malariae. The APS exhibits high transduction efficiency and
CC specifically kills or injures cells infected by one or more pathogens.
CC Formation of the cytotoxin is minimized or eliminated in uninfected cells
CC and in infected cells that keep the pathogen inactive. The APS can be
CC specifically tailored to kill or injure cells infected by one or more
CC pathogen strains. This sequence represents a transduction protein motif
CC described in the invention.
XX
SQ Sequence 11 AA;

Query Match 52.6%; Score 10; DB 20; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.015;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy         10 ARAARRAARA 19
              ||||||||||
Db          2 ARAARRAARA 11
```

RESULT 13

AAB29419
ID AAB29419 standard; peptide; 11 AA.
XX
AC AAB29419;
XX
DT 09-FEB-2001 (first entry)
XX
DE Synthetic transduction peptide, SEQ ID NO:6.
XX
KW Protein transduction domain; fusion molecule; therapeutic agent;
KW drug targetting; drug discovery; cell transduction; bioavailability;
KW vaccine; nervous system disorder; Alzheimer's disease;
KW Parkinson's disease; Huntington's disease; pre-senile dementia; epilepsy;
KW seizure; compulsive behaviour; meningitis; encephalitis; ischaemia;
KW spongiform encephalopathy; dyslexia; age-related memory loss;
KW Lou Gehring's disease; viral infection; HIV; bacterial infection.
XX
OS Synthetic.
XX
PN WO200062067-A1.
XX
PD 19-OCT-2000.
XX
PF 28-FEB-2000; 2000WO-US05097.
XX
PR 28-FEB-1999; 99US-0122757.
PR 29-AUG-1999; 99US-0151291.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Dowdy SF;
XX
DR WPI; 2000-647439/62.
XX
PT Fusion molecules comprising protein transduction domains and
PT therapeutic agents, useful for treating e.g. Alzheimer's and
PT Parkinson's diseases, dementia and epilepsy -
XX
PS Claim 36; Page 147; 191pp; English.
XX
CC The invention relates to a novel fusion molecule comprising at least
CC one protein transduction domain (PTD) and at least one linked molecule,
CC where the linked molecule has therapeutic or prophylactic activity
CC against a medical condition. The invention also relates to methods of
CC drug discovery in which the test compound is linked to a suitable
CC transducing protein and introduced to a cell; a method of killing
CC resistant microorganisms using a suitable fusion molecule; a mammal
CC comprising a covalently linked fusion molecule; and a mammal adapted for
CC experimental use in which at least one transduction molecule has been
CC transduced into essentially all the cells of the mammal. The fusion
CC molecule is used to deliver a therapeutic agent to a mammal, especially
CC a human. The linked molecule may be a vaccine, an anti-infective drug,
CC a cardiovascular drug, an antitumour drug, an analgesic, an
CC antiinflammatory, a diagnostic marker or a drug for the treatment or
CC prevention of a central or peripheral nervous system disorder. The
CC central nervous system (CNS) disorder is especially Alzheimer's disease,
CC Parkinson's disease, Huntington's disease, and also includes pre-senile
CC dementia, epilepsy and seizures, compulsive behaviour, meningitis
CC (including viral and bacterial meningitis), encephalitis, ischaemia,
CC scrapie (or related spongiform encephalopathies), dyslexia, age-related
CC memory loss or Lou Gehring's disease. Fusion molecules can also be
CC used to kill virally infected cells, especially those infected with HIV.
CC The vaccines are used to treat or prevent bacterial or viral infections.
CC The methods are a highly effective means for transducing a molecule
CC into an entire mammal or into specific cells, tissues, organs and
CC systems within it. They also overcome bioavailability problems that
CC are associated with many therapeutic agents (e.g., large molecular size,
CC hydrophobicity, hydrophilicity, biological resistance), by providing
CC efficient transduction of the target cell. The present sequence
CC represents a specifically claimed protein transduction domain.
XX
SQ Sequence 11 AA;

Query Match 52.6%; Score 10; DB 21; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.015;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 10 ARAARRAARA 19
||||||||||
Db 2 ARAARRAARA 11

RESULT 14
AAY93547
ID AAY93547 standard; Peptide; 11 AA.
XX
AC AAY93547;
XX
DT 25-SEP-2000 (first entry)
XX
DE Amino acid sequence of a synthetic protein transduction domain.
XX
KW Protein transduction system; protein transduction domain;
KW cytotoxic domain; pathogen infection; retroviral infection;
KW plasmodial infection; cancer; prostate cancer.
XX
OS Synthetic.
XX
PN WO200034308-A2.
XX
PD 15-JUN-2000.
XX
PF 10-DEC-1999; 99WO-US29289.
XX
PR 10-DEC-1998; 98US-0111701.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Dowdy SF;
XX
DR WPI; 2000-431269/37.
XX
PT Protein transduction system for treating cancer and pathogenic
PT infections has a fusion protein comprising a protein transduction
PT domain covalently linked to a cytotoxic domain -
XX
PS Claim 69; Page 99; 127pp; English.
XX
CC AAY93542-51 represent synthetic protein transduction domains, which
CC are used in the protein transduction system of the invention. The
CC specification describes a protein transduction system, which comprises
CC a fusion protein. This fusion protein has a covalently linked protein
CC transduction domain and cytotoxic domain. The system is useful for
CC treating pathogen infection in mammals, infections such as those
CC caused by CMV, HSV-1, HCV, KSHV, yellow fever virus, flavivirus or
CC rhinovirus, retroviral infections such as HIV-1, HIV-2, HTVL-3 and/or
CC LAV, plasmodial infections associated with P.faciparum, P.vivax,
CC P.ovale, P.malariae. It is also useful for treating cancer, especially
CC prostate cancer.
XX
SQ Sequence 11 AA;

Query Match 52.6%; Score 10; DB 21; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.015;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 10 ARAARRAARA 19
||||||||||
Db 2 ARAARRAARA 11

RESULT 15
AAE05278
ID AAE05278 standard; peptide; 11 AA.
XX
AC AAE05278;

XX
DT 12-SEP-2001 (first entry)
XX
DE Human immunodeficiency virus (HIV) TAT mutant peptide #5.
XX
KW DNA recombinase domain; protein transduction domain; PTD; mutant;
KW gene alteration; TAT protein; mutein; Human immunodeficiency virus;
KW HIV.
XX
OS Human immunodeficiency virus.
OS Synthetic.
XX
PN WO200149832-A2.
XX
PD 12-JUL-2001.
XX
PF 05-JAN-2001; 2001WO-EP00060.
XX
PR 07-JAN-2000; 2000EP-0100351.
PR 10-NOV-2000; 2000EP-0124595.
XX
PA (ARTE-) ARTEMIS PHARM GMBH.
XX
PI Schwenk F;
XX
DR WPI; 2001-441873/47.
XX
PT Using site-specific DNA recombinase domain/protein transduction domain
PT fusion proteins for inducing target gene alterations in organisms or
PT cell cultures -
XX
PS Claim 5; Page 71; 85pp; English.
XX
CC The present invention relates to use of fusion proteins comprising
CC a site-specific DNA recombinase domain e.g. Cre and a protein
CC transduction domain (PTD) e.g. the Human immunodeficiency virus
CC (HIV) derived TAT peptide, for preparing an agent for inducing
CC target gene alterations in a living organism or cell culture. The
CC present invention also provides a method for inducing gene
CC alterations in living organisms using the fusion proteins of the
CC invention. The present sequence is a HIV TAT mutant peptide.
XX
SQ Sequence 11 AA;

Query Match 52.6%; Score 10; DB 22; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.015;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy         10 ARAARRAARA 19
              ||||||||||
Db          2 ARAARRAARA 11
```

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